

SCOPUS

BIRDS OF LATHAM ISLAND

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Latham Island or Fungu Kizimkazi (6°54'S., 39°56'E.) lying 56 km south-east of Zanzibar is the most important seabird breeding station along the entire East African coast, and is the only known breeding ground of the Masked Booby *Sula dactylatra* and the Crested Tern *Sterna bergii*.

Fortunately the island lies sufficiently offshore (40 km) to deter canoe-borne fishermen from Dar es Salaam, while the scarcity of motor-powered boats in the area also prevents other fishermen and visitors from reaching the island. However, periodic visits have been made from as early as 1824 (Owen 1833), while the most comprehensive account of the island is that of Gwynne, Parker & Wood (1970) who visited it on 12 October 1967. Subsequent visits by ourselves in November 1971 and by Mathews (1973) in November 1972 noted considerable breeding activity and these findings, together with those of R.H.W. Pakenham in November 1948, are incorporated in this paper.

Latham is best regarded as an island in the Western Indian Ocean rather than an offshore islet similar to those in Kenya's Lamu archipelago (Britton & Brown 1974), and as described by Gwynne *et al.* (1970) is oblong in shape rising some 3 m above the high spring tide level. The main coral platform of the island is approximately 230 m long and 140 m at its widest point inclusive of a large sandbank which, depending on which monsoon is blowing, varies in size - as much as 120 m is exposed at certain times of the year (Moreau 1940). There are no trees or bushes on the island, and the very scanty vegetation consists mainly of two prostrate, fleshy-leaved herbs *Portulaca* spp. Guano deposits cover much of the island, though in general the surface is hard except in those areas where the guano is fresh and soft, when it varies in depth from 15 cm to as much as 1 m (Gwynne *et al.* 1970).

Latham Island is the most important East African breeding ground of several oceanic species, probably due to its relative remoteness and the fact that it is generally undisturbed during critical periods of breeding. As far as is known, breeding generally takes place from October - March during the calmer northeast monsoon, whereas breeding on inshore islets in Kenya takes place during July and August when seas are at their roughest (Moreau 1950, Britton & Brown 1974). Seas during April - August make approach to Latham extremely hazardous then, though local reports indicate that some birds (terns and possibly others) do breed during these months. Certainly the breeding season varies from year to year (e.g. C.J. Charlewood found Masked Boobies incubating eggs in May, R.H.W. Pakenham *in litt.*), but insufficient data are available at present to say just how varied these seasons may be. As suggested by Moreau (1950)

it is likely that breeding at Latham is correlated with optimum food supplies, though seasonal inaccessibility might be at least as important in determining seasons in more accessible sites (Britton & Brown 1974).

Unfortunately there are a number of rats resident on Latham, no doubt descended from survivors of some former shipwreck. R.H.W. Pakenham (*in litt.*) noticed large numbers in 1948 as did Gwynne *et al.* in 1967. Mathews (1973) saw only a few during his visit and although we did not actually see any ourselves in November 1971, broken eggs along one side of the Sooty Tern *Sterna fuscata* colony may well have been due to such a predator. R.H.W. Pakenham (*in litt.*) also came across a number of fragments of tern eggs, again no doubt due to rats.

To date a total of fourteen species has been recorded from Latham, which may best be categorized as follows:

BIRDS RECORDED BREEDING - 4 species

SULA DACTYLATRA Masked Booby

Recorded breeding on Latham as early as January 1824 when there were eggs and young in all stages (Owen 1833 given by R.H.W. Pakenham *in litt.*).

Observations made on subsequent visits may be summarized as follows:

- 1918 Adult specimens with two nestlings in down collected by F.B. Pearce on 3 November and deposited in the Zanzibar Museum. The adults, which were first thought to be Brown Boobies *S. leucogaster* were later identified in the British Museum as *S. d. melanops* in immature plumage (Moreau 1940).
- 1923 Latham visited by C.J. Charlewood in November, whose photographs at the time 'showed numbers of very white and very dark Sulidae apparently nesting together. Of 36 recognizable birds in one photograph, 12 were dark, and of 34 in another 21 were dark' (quoted by R.H.W. Pakenham *in litt.*).
- 1936 Visit by G.F. Cole who found thousands of Sulidae (both brown and white birds) breeding in November. Photographs sent to Moreau of brooding examples, some brown, some white (Moreau 1940).
- 1938 Cole visited the island again (at Moreau's request) in December, but numbers breeding less than in the previous visit. However, Cole reported 'brown birds were actually on eggs and young' during this visit, many of which were driven off nests. As a result, Moreau (1940) concluded that it was clear that only one species of Sulidae bred on Latham, and that about one third of the population did so while in immature plumage. He also remarked that this was paralleled by other boobies e.g. *S. piscator* on its Galapagos station.
- 1944 Latham visited by L.P. Lane who recorded breeding on 18 February with c. 5000 present at dusk, but only 1000 at 0900hrs the next day, and only 200 an hour later (R.H.W. Pakenham *in litt.*).
- 1948 Visit by R.H.W. Pakenham and party on 25 November. Breeding was in progress and 367 adults and 188 immatures were present by 0800 hrs, plus about 100 birds flying round and perhaps another hundred foraging in nearby fishing grounds, thus giving a total of about 750 birds in all, of which some 400-450 were breeding. Nests contained mainly one or two eggs, occasionally three, and young in all stages. At the time Pakenham, bearing in mind Cole's statement that he drove many

brown birds off their nests in December 1938, made a special point of observing whether immature birds were breeding or not, but did not see a single immature bird in charge of a nest. The only one seen taking any interest in a nest containing a chick a few days old, pecked gently at the chick as though teasing it but did not brood it. Presently this bird surrendered the nest to an adult and moved on to another nest from which it was also driven off by an irate owner.

- 1951 A visit by V.G. Glenday on 19 March when between 1000 and 2000 birds were nesting, many nests contained newly hatched young (R.H.W. Pakenham *in litt.*).
- 1967 The visit of Gwynne, Parker and Wood on 12 October. They reported nests of both *S. dactylatra* and *S. leucogaster* from eggs to young at all stages. Specimens of both species were reported by Parker (1970) and deposited in the National Museum, Nairobi. Gwynne *et al.* (1970) state that all breeding adults of *dactylatra* were in white plumage and that there were no signs of birds nesting in brown immature plumage as recorded by Moreau (1944). (See below.)
- 1971 Latham visited by ourselves on 19 November. 500-550 nests at all stages from eggs to quite mature young. Clutches with either one or two eggs and one with three. Approximately 200 nests contained small chicks while some had young almost the size of adults. We also saw 13 individuals in brown immature plumage but there was no indication that they were breeding.
- 1972 Mathews visited the island on 23 November when he found about 200 pairs breeding: all stages from eggs to almost mature young were present (Mathews 1973).

Latham was also visited by Frazier during one October in the early 1970s. His subsequent article which appeared in July 1976 (Frazier 1976) referred to both *dactylatra* and *leucogaster* nesting. Although Frazier himself realized that the recording of *leucogaster* was in error long before publication date, this was unfortunately not made clear in the article (A.W. Diamond pers. comm., and see below).

As can be seen from the above records, there have been many instances of 'brown birds' present on Latham during breeding, and thought by many to be breeding themselves. Theories on these 'brown birds' from several observers and authorities have ranged from a population of *dactylatra* breeding in immature plumage (Moreau 1940) to a breeding colony of *leucogaster* alongside *dactylatra* (Gwynne *et al.* 1970), from which specimens attributed to *leucogaster* were obtained by Parker (1970), and referred to subsequently by Britton (1977a).

Recently, A.W. Diamond, who has had considerable experience with the Sulidae, both in the Caribbean and the Indian Ocean, found, on closer examination of the two specimens in the National Museum labelled *leucogaster* collected on Latham on 12 October 1967, that they had been wrongly identified and were in fact immature *dactylatra*. This finding has been readily accepted by I.S.C. Parker (pers. comm.). A.W. Diamond (pers. comm.) has also questioned *dactylatra* breeding in immature plumage since no species of booby is known to do so; he also believes that Moreau (1940), who remarked that the breeding of *dactylatra* in immature dress was paralleled by *piscator* in the Galapagos, was in error in that *piscator*

(=*Sula sula*) has two colour morphs in the Galapagos, the commoner one being brown, very similar to the immature plumage (but quite distinct, once known).

Visits to the island by Pakenham in November 1948 and ourselves in November 1971 confirm that while brown plumaged birds were present at the breeding colony and observed standing alongside nests with either young or eggs, they were not the occupiers or parents of those nests or young. There is no evidence whatsoever that brown immature plumaged *dactylatra* have bred at Latham Island, only that immature birds are present during the breeding season, often in quite large numbers, and frequently in close association with nests when the adults are absent at the time. We feel that Cole, in December 1938, may have mistaken immature birds standing alongside nests as the occupiers of those nests.

It is hoped that the confusion which has long surrounded the 'brown birds' on Latham has now been clarified.

ANOUS STOLIDUS Brown Noddy

On 19 November 1971 the Brown Noddy appeared to be just beginning to breed. Approximately 2500-3000 birds were present on the island, though only 300-400 appeared to be actually nesting. All nests examined contained a single egg. The birds showed a marked preference for the rocky edges of the island, and nests were on the ground among small stones and rocks on the extreme edge of the Sooty Tern colony.

This was the first time the species had been recorded from Tanzania; in Africa it rarely occurs south of the equator, though it breeds annually in small numbers in Kenya south to Whale Island (Britton & Brown 1974). Mathews (1973) also recorded this species from Latham in November 1972 when he estimated that there were two colonies of fifty or more birds, again nesting on the rocky promontories of the island, though he did not indicate whether the nests held eggs or young.

STERNA BERGII THALASSINA Crested or Swift Tern

On 19 November 1971 we observed approximately 750-1000 birds in two small breeding colonies, although only 200-300 nests were actually located. All nests contained a single egg except one which had two; the eggs had been laid in a scrape in bare soil at the edge of the booby and Sooty Tern colonies. At the time this was the first confirmed breeding record of this species from Tanzania, though Gwynne *et al.* (1970) had found the remains of tern eggs during their visit in October 1967 which were later thought to have possibly belonged to this species. Similarly Pakenham, in November 1948, came across large fragments of a tern egg which, from its size and description, may also have belonged to this species. Mathews (1973) also recorded Crested Terns breeding in November 1972, when he estimated 200-500 pairs all with young about a week old.

STERNA FUSCATA Sooty Tern

Thousands of Sooty Terns rose from Latham like a dust storm as our boat approached when we visited the island in November 1971. It was impossible to make an accurate count during our visit, though we estimated that there were at least 30 000 birds present, and at least 10 000 nests with birds incubating a single egg. All nests were amongst the short fleshy-leaved succulent *Portulaca* growing over much of the island, and along one side of the colony we noticed many broken egg shells, though there was no sign of young birds. In November 1972, Mathews (1973) reported a similar scene, and at the time he estimated between 50 000 and 100 000 birds as not an

unreasonable estimation with both chicks and eggs present. As Gwynne *et al.* (1970) did not record this species during their visit in October 1967 and only broken egg shells (possibly of this species) were found by Pakenham in November 1948, it may be that Sooty Terns breed only sporadically on Latham. The only other reference to the occurrence of Sooty Terns there was by Cole who found terns breeding, though not regularly, which Moreau (1940) felt were Sooty Terns - possibly 'the Sooty petterels' of Owen's visit in 1824.

MIGRATORY WADERS AND OCEANIC SPECIES RECORDED - 11 species

PHAETHON LEPTURUS White-tailed Tropic Bird

Mathews (1973) saw two birds between Mafia Island and Latham in November 1972. This was the first record from Tanzania.

FREGATA sp. frigate birds

Whereas frigate birds are recorded almost annually off the East African coast, and undoubtedly occur also at Latham Island, only Mathews (1973) is able to provide a record. He observed two birds in November 1972 but was unable to positively identify them to species.

HAEMATOPUS OSTRALEGUS Oystercatcher

Mathews (1973) saw a small group flying along the shoreline at Latham in November 1972. Although there are only a few records of this species from the East African coast it has, on a number of occasions, been recorded from off-shore islands and out at sea, which suggests that this Palaearctic species may prefer such off-shore habitats to the mainland (Backhurst, Britton & Mann 1973).

The following seven species are all common Palaearctic migrants along the East African coast and would normally be expected to occur annually on Latham: *Charadrius leschenaultii* Greater Sand Plover, *Numenius phaeopus* Whimbrel, *Tringa hypoleucos* Common Sandpiper and *T. nebularia* Greenshank all recorded by R.H.W. Pakenham (*in litt.*) on 25 November 1948; *Pluvialis squatarola* Grey Plover and *Calidris ferruginea* Curlew Sandpiper were seen by ourselves on 19 November 1971 and the Turnstone *Arenaria interpres* has been seen in small numbers by Pakenham, Mathews and ourselves.

In addition, Mathews (1973) reported seeing a phalarope which he thought was possibly a Grey Phalaropus *fulicarius* at Latham in November 1972. This is recorded only very rarely from the Indian Ocean (Feare & High 1977).

PROBLEMATICAL RECORDS

[*SULA LEUCOGASTER* Brown Booby

This has only been recorded from East African waters on very few occasions. There is no record from Latham, see discussion under *dactylatra* above.]

ARDEIDAE herons and egrets

Gwynne *et al.* (1970) refer to the possibility of Reef Herons *Egretta schistacea* having nested on Latham Island in the past: they refer to Moreau (1940) who considered that the bluish egg shells found on Latham by Cole in 1936 could have been those of Reef Herons. Although we consider this extremely unlikely both on zoogeographical grounds and because the Reef Heron is a tree-nesting species, we think there is a distinct possibility the egg shells in question may have belonged to dark phase

Little Egrets *E. garzetta*. P.L. Britton (*in litt.*) informed us that *garzetta* (mainly dark phase) nest on the ground at Kisite Island off Shimoni on the south Kenya coast, and may well have done so on Latham in the past.

PLATALEIDAE spoonbills

Gwynne *et al.* (1970) mention that D.W.I. Piggott (*in litt.* to R.E. Moreau) said that, according to local reports, spoonbills spent the period April to October on the island. Moreau (1944) considered that if this were so, there might be an outlying colony of the Red Sea race of the European Spoonbill *Platalea leucorodia archeri* on Latham. However, we consider this most unlikely: *archeri* is non-migratory, and spoonbills are, on the whole, generally uncommon along the East African coast. We feel that such local reports probably referred to an oceanic species.

GLAREOLIDAE pratincoles

Mathews (1973) reported seeing a small flock of pratincoles, which he thought were probably Madagascar Pratincoles *Glareola ocularis*, off Latham in November 1972. This species occurs annually on the East African coast from April to September before returning to its breeding grounds in Madagascar (Britton 1977b). While it is possible that Mathews saw a late group on their return journey, we feel that it is unlikely. Pratincoles *G. pratincola* from the African mainland are unlikely to occur at Latham, while Eastern Collared Pratincoles *G. maldivarum*, which on occasion reach Seychelles and Mauritius (Féare & High 1977), are even less likely to occur as far west as Latham.

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THE AFRICAN PITTA AT GEDI RUINS, KENYA

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The African Pitta *Pitta angolensis* is a seldom seen bird in East Africa, partly because it lives in dense forest habitats not often visited by people, but also because it is probably relatively rare (Moreau 1966). Thus it is not surprising that little is known of its natural history (Burke 1969). The following observations are based on 121 sightings of the African Pitta (= Pitta) at the Gedi Historical Monument (Gedi Ruins, Gedi Forest), Malindi, Kenya. The monument is a 44 ha area which protects 13th Century Arab ruins. Except for some clearings around the major ruins, the area is covered with a lowland, semi-deciduous forest, dominated by the large *Commobretum schumanni* and *Gyrocarpus americana* trees, and the smaller *Lecaniodiscus frazarinifolius* in the understorey. All the Pittas were seen on the forest floor.

I lived within the forest from April 1971 to December 1972 while studying the ecology and social structure of the golden-rumped elephant-shrew *Rhynchocyon chrysopygus*. The principal study site was located in the southern third of the forest and consequently all the Pitta observations were restricted to this area (Fig. 1a and Rathbun 1976).

The Pitta was not seen between 6 November 1971 and 22 April 1972. Its absence during this dry period, and its migratory behaviour in eastern Africa generally, are discussed by Britton & Rathbun (1978).

DAILY ACTIVITY

During 1972 47 per cent. of my search time was between dawn and noon and 53 per cent. between noon and dusk: I saw Pittas 74 times during this year, 39 in the morning and 35 in the afternoon period. These figures are not significantly different from the expected number of sightings based on the proportions of my search time before and after noon ($P < 0.5$, χ^2 test). Thus the suggestion by A.D. Forbes-Watson (pers. comm.) that the Pitta might be more active in the morning does not seem to be true at Gedi Ruins.